AMENDMENTS TO THE CLAIMS

1-4. (Canceled).

5. (Previously Presented) A method of inducing a prophylactically effective immune response against *Helicobacter pylori* in a mammal, said method consisting essentially of administering to said mammal a prophylactically effective amount of a prophylactically effective *Helicobacter pylori* polypeptide antigen by the subdiaphragmatic, systemic route.

6. (Previously Presented) The method of Claim 5, in which a Th1-type immune response is induced by said subdiaphragmatic, systemic administration.

7. (Previously Presented) The method of Claim 6, wherein a Th1-type immune response and a Th2-type immune response are induced and the immune response of said mammal is characterized by either (i) a ratio of the ELISA IgG2a:IgG1 titers greater than or equal to 1:100, or (ii) a ratio of the ELISA IgG2a:IgA titers greater than or equal to 1:100.

8. (Previously Presented) The method of Claim 7, in which the immune response of said mammal is characterized either (i) by a ratio of the ELISA IgG2a:IgG1 titers greater than or equal to 1:10, or (ii) by a ratio of the ELISA IgG2a:IgA titers greater than or equal to 1:10.

9. (Previously Presented) The method of Claim 8, in which the immune response of said mammal is characterized either (i) by a ratio of the ELISA IgG2a:IgG1 titers greater than or equal to 1:2, or (ii) by a ratio of the ELISA IgG2a:IgA titers greater than or equal to 1:2.

10. (Canceled).

11. (Previously Presented) The method of Claim 10, in which the *Helicobacter pylori* antigen comprises the UreB or UreA subunit of a *Helicobacter pylori* urease.

12 and 13. (Canceled).

14. (Previously Presented) The method of Claim 5, in which the *Helicobacter pylori* antigen is administered by the strict systemic route.

15. (Previously Presented) The method of Claim 5, in which the *Helicobacter pylori* antigen is administered by a systemic route selected from the subcutaneous route, the intramuscular route, and the intradermal route.

16 and 17. (Canceled).

18. (Previously Presented) The method of Claim 5, in which the *Helicobacter pylori* antigen is administered in the dorsolumbar region of said mammal.

19-24. (Canceled).

25. (Currently Amended) A method of inducing a prophylactically effective immune response against Helicobacter infection in a mammal, said method comprising in order the steps of:

mucosally administering, in an initial immunization, a prophylactically effective amount of a prophylactically effective *Helicobacter pylori* polypeptide antigen to said mammal to prime an immune response; and then

parenterally administering a prophylactically effective amount of a prophylactically effective *Helicobacter pylori* polypeptide antigen to said mammal to boost said immune response.

26-36. (Canceled).

37. (Previously Presented) The method of claim 25, further comprising carrying out more than one mucosal administration.

38. (Previously Presented) The method of claim 25, further comprising carrying out more than one parenteral administration.

39. (Previously Presented) The method of Claim 25, in which the mucosal administration is carried out to prime an immune response to said *Helicobacter pylori* antigen, and the

parenteral administration is carried out to boost an immune response to said *Helicobacter pylori* antigen.

40. (Previously Presented) The method of Claim 25, in which the mucosal administration is oral administration.

41 and 42. (Canceled)

43. (Previously Presented) The method of Claim 31, in which the *Helicobacter pylori* antigen comprises the UreB or UreA subunit of a *Helicobacter pylori* urease.

44. (Previously Presented) The method of Claim 31, in which the *Helicobacter pylori* antigen is a DNA molecule or a vaccinal vector comprising a sequence encoding the UreB or UreA subunit of a *Helicobacter pylori* urease.

45. (Previously Presented) The method of Claim 25, further comprising mucosally co-administering a mucosal adjuvant selected from the group consisting of *Escherichia coli* heat labile enterotoxin (LT), cholera toxin (CT), *Clostridium difficile* toxin, *Pertussis* toxin (PT), and combinations, subunits, toxoids, and mutants derived therefrom with the mucosally administered *Helicobacter pylori* antigen.

46. (Previously Presented) The method of Claim 25, in which a parenteral adjuvant selected from the group consisting of alum, QS-21 (purified fraction of saponin extracted from

Quillarja Saponaria Molina), DC-CHOL (3-beta-(N-(N',N'-dimethylamino-ethane)carbamoyl)cholesterol), and BAY R1005 (N-(2-deoxy-2-L-leucylamino-beta-D-glucopyranosyl)-N-octa-decyldodecanoylamide acetate) is co-administered with the parenterally administered *Helicobacter pylori* antigen.

47. (Previously Presented) The method of Claim 25, in which the parenteral administration is intramuscular administration or subcutaneous administration.